

What is claimed is:

1. An apparatus for receiving parts traveling at a first speed through a receiving zone and applying the parts to a carrier traveling at a second speed through an application zone, the apparatus comprising:
at least two independent programmable motors; and
at least two transferring devices for receiving the parts in the receiving zone and applying the parts in the application zone, at least one of the transferring devices being coupled to each of the programmable motors for moving the transferring devices in an orbital path,
wherein the programmable motors and the transferring devices are aligned in relation to a common axis, and
wherein the programmable motors maintain the transferring devices at first surface speeds in the receiving zone as the transferring devices pick up the parts and maintain the transferring devices at second surface speeds in the application zone as the transferring devices apply the parts to the carrier.
2. The apparatus as defined in claim 1 wherein at least one of the programmable motors is selected from the group consisting of a motor having a hollow rotatable shaft, a linear motor having a stationary track rail, a motor having a rotatable outer rotor and a stationary inner stator, and a motor having a rotor rotatable around a stationary component of a motor.
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The apparatus as defined in claim 1 wherein the programmable motors are located on a stationary central shaft coaxially with the common axis.
3. The apparatus as defined in claim 2 wherein at least one of the programmable motors is coupled to at least one of the transferring devices via a transmitting mechanism for moving the at least one of the transferring devices.
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The apparatus as defined in claim 4 wherein the transmitting mechanism is a rigid connection or an extensible connection.
4. The apparatus as defined in claim 2 wherein the stationary track rail of the linear motor includes a plurality of armature windings therein or a magnetic material therein.
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The apparatus as defined in claim 6 wherein the linear motor includes at least one rider movable on the stationary track rail.

8. The apparatus as defined in claim 1 wherein the first and second surface speeds of the transferring devices are substantially constant.
9. The apparatus as defined in claim 1 wherein the first and second surface speeds of the transferring devices are variable.
10. The apparatus as defined in claim 1 wherein either the first surface speeds of the transferring devices or the second surface speeds of the transferring devices are variable.
11. The apparatus as defined in claim 1 wherein the first surface speeds of the transferring devices are substantially equal to the first speed of the parts in the receiving zone and the second surface speeds of the transferring devices are substantially equal to the second speed of the carrier in the application zone.
12. The apparatus as defined in claim 1 wherein at least one of the transferring devices comprises at least one shell segment having an outer surface, the shell segment is movable along the orbital path that passes through the receiving zone and the application zone during movement of the at least one of the transferring devices, the shell segment collects at least one of the parts in the receiving zone and holds the at least one of the parts against the outer surface utilizing a vacuum, electrostatics, or a coefficient of friction before applying the at least one of the parts to the carrier in the application zone.
13. The apparatus as defined in claim 12 wherein the shell segment utilizes a vacuum, electrostatics, or surface coefficient of friction to hold the parts to the outer surface.
14. The apparatus as defined in claim 12 wherein the outer surface of the shell segment is an arcuate surface or a flat surface.
15. The apparatus of claim 1 wherein the orbital path forms a circle or any trajectory including one or more curvilinear or rectilinear sections.
16. The apparatus as defined in claim 1 wherein at least one of the transferring devices is coupled to more than one of the programmable motors.

15. The apparatus as defined in claim 1 further comprising an applicator for performing a secondary process on the parts between the receiving zone and the application zone.

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The apparatus as defined in claim 1 further comprising a cutting device wherein a continuous web of material is cut into parts at the receiving zone.

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The apparatus as defined in claim 1 wherein the carrier comprises a web substrate, a belt or a drum.